REMARKS

The withdrawal of the rejection of claims 1–12 as set out in the Office Action mailed November 16, 2005, is noted with appreciation.

Claims 1 to 17 are pending in the application.

Claim 16 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for lacking antecedent basis for "said options". The Examiner is correct in his assumption that claim 16 should depend upon claim 15, and claim 16 has been so amended by this amendment. Withdrawal of the rejection is therefore respectfully requested.

The disclosed and claimed invention is directed to a multilingual conversation assist system that enables persons fluent in different but not the same languages to carry on conversations on a real time basis. The invention uses a multilingual conversation database for use in a multilingual conversation enabling a conversation in a plurality of languages, comprising subdatabases set according to a combination of languages different from each other for use in a conversation, wherein each of the subdatabases has a first area for setting a conversational situation and a second area for storing units of languages likely to be used for respective situations and wherein selecting the situation in the first area enables a display of a language unit in the second area corresponding to the situation. Image representation information and voice information corresponding to the language unit are stored in the second area of the subdatabase

Figure 1 shows typical database structure for use in the present invention. In the example described, database 1 has a structure available to a conversation between two languages selected from a group consisting of Japanese, American English, Chinese, Korean, Indonesian, Thai, and Vietnamese. Therefore, the illustrated database 1 comprises a single basic table 100 storing a common conception of language to each of the languages and a plurality of tables 200 to 800 for storing language data for conversations in each language. The table 200 is assumed to be a Japanese language table for storing language data of the Japanese language. The remaining tables 300, 400, 500, 600, 700, and 800 are assumed to be prepared for storing language data of the American English, Chinese, Korean,

Indonesian, Thai, and Vietnamese languages, respectively. Reference numeral 1000 shown in Figure 1 designates a subdatabase for storing data available to a conversation between Japanese and Indonesian, which are used as the first and the second languages, respectively, in the described example. In the description of Figure 1, description is omitted regarding the remaining subdatabases for the forty-one language combinations. The illustrated subdatabase 1000 contains an area 1100 for storing data for setting a conversational situation, a control section 1200 for storing a control program for reading the setting data of the conversation situation from the area 1100 to display the same and to request a user to select a conversational situation, and an area 1300 for storing language units that are used when the first language is Japanese and the second language is Indonesian.

Figure 2 shows a typical structure of the basic table 100. Reference numerals 101, 102, and 103 designate a word identification number field indicating an identification number of a word, an image display file name field indicating a file name of an image display corresponding to the word, and a conception field indicating a conception of the word, respectively, as described on page 8 of the specification. The word identification number is common among all of the languages as long as a conception of the word is common. Specifically, the numbers "14", "15", "16", and "17" are assigned to the concepts "airport", "transfer", "greetings", and "shopping", respectively, as shown in Figure 8. In other words, the word identification number field 101 serves to specify a primary key. Moreover, a "language unit" is defined on page 8 of the specification and claim 1 and may be a set or unit that is to be displayed on an information display section (see Figure 14, step S21) in a manner illustrated in Figure 21 and that includes various conversation information between two different languages.

Taking the above into consideration, each language unit is individually managed or stored in different language data memories because the common word identification number is assigned to each language unit. This permits each language unit to be individually accessed by the same or common word identification number operable as the primary key.

With this structure, each language table 200 to 800 illustrated in Figure 1 can be freely or individually designed independently of any other language tables

to display each language unit that may not always include an image or sound. Specifically, either an image 253 or 254 in Figure 21 may not be displayed on the display section 51 while a hospital mark 251 may not always also be displayed on the display section 51 when an appropriate mark is absent. From this fact, it is to be understood that each language table 200 to 800 can be designed in various manners with the primary keys assigned to the respective common concepts and the language units to be displayed on the display section 51 can be displayed in various different manners.

With the above understanding, the following is a further description of the data structure. The basic table 100 has stored records having values corresponding to the respective fields. The number of records corresponds to the number of the language units handled by this multilingual conversation assist system. Figure 3 shows a typical structure of the Japanese language table 200. A word identification number field is depicted by 201; a Japanese character display field indicating a character display in Japanese, 202; a Japanese voice field indicating a voice announcement in Japanese, 203; an American English phonetic expression field of a Japanese pronunciation, 204; a Chinese phonetic expression field of a Japanese pronunciation,205; a Korean phonetic expression field of a Japanese pronunciation, 206; an Indonesian phonetic expression field of a Japanese pronounce, 207; a Thai phonetic expression field of a Japanese pronunciation, 208; and a Vietnamese phonetic expression field of a Japanese pronunciation, 209. The word identification number field 201 is operable as an external key and corresponds to the word identification number field 101 operable as the primary key in the basic table 100. The Japanese language table 200 has stored records specified by values corresponding to the respective fields. The number of records corresponds to the number of Japanese language units handled in the multilingual conversation assist system. Figure 4 shows a typical structure of the Indonesian language table 600. There are shown a word identification number field at 601, an Indonesian character display field indicating an Indonesian character display at 602, an Indonesian voice field indicating an Indonesian voice representation at 603, a Japanese phonetic expression field of an Indonesian pronunciation at 604, an American English phonetic expression field of the Indonesian pronunciation at

605, a Chinese phonetic expression field of the Indonesian pronunciation at 606, a Korean phonetic expression field of the Indonesian pronunciation at 607, a Thai phonetic expression field of the Indonesian pronunciation at 608, and a Vietnamese phonetic expression field of the Indonesian pronunciation at 609. The word identification number field 601 is operable as an external key and corresponds to the word identification number field 101 operable as the primary key in the basic table 100. The Indonesian language table has stored records each having values corresponding to the respective fields. The number of records corresponds to the number of Indonesian language units handled in the multilingual conversation assist system.

The area 1100 for storing data for setting a conversational situation can be formed, for example, by the use of a plurality of tables and queries of a relational database. As shown in Figure 6, the scene selection table 1110 is for storing data for displaying first-stage options when a conversational situation is set. It is assumed that the first language and the second language have already been determined and the following description is made as an example where the first language is Japanese and the second language is Indonesian. The scene selection table 1110 comprises a scene identification field 1111, a display sequence field 1112, a word identification number field 1113, a next-stage query identification field 1114, and a next-stage display type identification field 1115. The scene selection table 1110 has stored records specified by values corresponding to the respective fields. The area 1100 shown in Figure 6 also includes a scene selection query 1120. The query 1120 is structured by parts of fields of the basic table 100, the scene selection table 1110, and the Japanese language table 200. Specifically, it is formed by the word identification number field 1121, the image display file name field 1122 of the basic table 100, the scene identification field 1123, the display sequence field 1124, the next-stage query identification field 1125, and the next-stage display type identification field 1126 of the scene selection table 1110, and the Japanese character display field 1127 of the Japanese language table 200.

Figure 12 illustrates the information display terminal 10 which has an information display section 51, a cursor control section 52, and a selection button 53, with a main control section 54 controlling the information display terminal 10

in cooperation with a program stored in a main memory section 55. \ In addition, a removable memory holding section 56 can detachably hold a removable memory 60. Figure 14 shows a flow chart illustrating an embodiment of an execution process of a conversation assist, and the operation is described about an operation executed on the assumption that the removable memory 60, which stores the Japanese-to-Indonesian conversation assist package 1000, is inserted into the removable memory holding section 56 and then the operation is started. In this condition, a scene selection menu 70 is displayed on the information display section 51 shown in Figure 15, in order to execute step S11 as the first step "DISPLAY AND SELECTION OF SCENE OPTION" included in step S10 and to set a conversational situation under control of the control section 1200. The first language is Japanese and therefore the scene selection menu 70 is displayed in Japanese. The control section 1200 reads, as the first step, the scene selection query 1120 out of the area 1100 for storing data and sets the conversational situation. Records 1131, 1132, 1133, and 1134 shown in Figure 10 are sequentially read and a display sequence of the scene options is determined on the basis of a value of the display sequence field 1124 of the scene selection table of the records. As a result, data of the record 1131 having a value "1" in the scene selection table display sequence field 1124 is displayed as the first option, and then data of the record 1132 is displayed as the second option. Likewise, data of the record 1133 is displayed as the third option, and data of the record 1134 is displayed as the fourth option finally. An image file "airort_jpn_c.gif" of the Japanese language table Japanese character display field 1127 of the record 1131 is displayed at a position 71 in the selection menu 70. An image file "airport.gif" of the basic table image display file name field 1122 of the record 1131 is displayed at a position 72. Subsequently in the same manner, there are displayed an image file of the field 1127 of the record 1132 at position 73, an image file of its field 1122 at position 74, an image file of the field 1127 of the record 1133 at position 75, an image file of its field 1122 at position 76, an image file of the field 1127 of the record 1134 at position 77, and an image file of its field 1122 at position 78. The image file 71 is used together with a character code in order to display the characters as a scene option so as to cope with general uses such as

Hankul script or Thai characters display. Additionally, the image display file 72 is used besides the character expression 71 and is displayed as the scene option. This visually facilitates a decision on the menu selection by the help of an image expression as well as the character display.

The area 1100 shown in Figure 6 includes the second-stage option table 1170. The illustrated second-stage option table 1170 comprises a scene identification field 1171, a language unit identification field 1172, a display sequence field 1173, a word identification number 1174, a language unit connection field 1175, a next-stage query identification field 1176, and a next-stage display type identification field 1177 as shown in Figure 17, which shows an example of records 1181 to 1184 included in the second-stage option table 1170. The area 1100 illustrated in Figure 6 includes the second-stage option query 1190 which comprises a scene identification field 1191 of a second-stage option table, a language unit identification field 1192 of the second-stage option table, a display sequence field 1193 of the second-stage option table, a basic table word identification number field 1194, a basic table image display file name field 1195, a language unit connection field 1196 of the second-stage option table, a next-stage query identification field 1197 of the second-stage option table, a next-stage display type identification field 1198 of the second-stage option table, and a Japanese language table Japanese character display field 1199. Figure 18 shows an example of records 1185 to 1188 included in the second-stage query 1190.

Figure 19, along with Figures 14, 15, and 18, illustrate an operation executed when the image 72 is clicked in the step S11 of "DISPLAY AND SELECTION OF SCENE OPTION". When a selection is made in the scene selection menu 70, the operation is shifted to step S12 of "DISPLAY AND SELECTION OF LANGUAGE UNIT OPTION" illustrated in Figure 14. The control section 1200 reads data of the second-stage option query 1190 from both the scene selection query 1120 and the next-stage query identification table 1150 and determines a display item as an option of a language unit. For the option of the read language unit, the value "10" is read from the scene selection table next-stage display type identification field 1126 of the selected record 1131 of the scene

selection query 1120 and the corresponding language unit option display type is determined, and a language unit option is displayed, for example, in a layout shown in Fig. 19. In the second-stage option query 1190, a record is selected and read out only when a value of the second-stage option table scene identification field 1191 is equal to "101" which is equal to the value of the scene identification field 1123 selected in the previous step S11. In the example shown in Figure 8, records 1185 to 1188 are read out. In Figure 18, a value of the second-stage option table display sequence field 1193 indicates a display sequence or order of the selected language unit option and the records 1185, 1186, 1187, and 1188 are displayed in this order. As a result, image files shown in the Japanese language table Japanese character display field 1199 in Figure 18 are sequentially displayed at positions 81, 83, 85, and 87 in the language unit selection menu 80 shown in Figure 19. In the same manner, image files shown in a basic table image file name field 1195 shown in Figure 18 are sequentially displayed at positions 82, 84, 86, and 88 shown in Figure 19. In this manner, the display of the language unit option is completed. Clicking the image file 87 corresponding to the fourth option brings about selecting a record 1188 in the second-stage option query 1190. The control section 1200 reads "204" as a language unit identification from the value of the second-stage option table language unit identification field 1192 of the selected record 1188 and reads "60" as a word identification number from the basic table word identification number field 1194. Because of the value "0" of the next-stage query identification on the second-stage option table, operation is not moved to the step S12 of "DISPLAY AND SELECTION OF LANGUAGE UNIT OPTION" as the next step, but the step S10 of setting the conversational situation is terminated in Figure 14 and is then moved to the "CONNECTION AND DISPLAY OF LANGUAGE UNIT" step S21 in the language unit display step S20. Because of a value "0" of the second-stage option table language unit connection field 1196, it is determined that a language unit connection is unnecessary.

The multilingual conversation assist system according to the present invention is capable of assisting or supporting a conversation easily between native speakers of the first and second different languages by displaying a

language unit comprising icons, a second language phonetic symbol or a second language pronunciation output using an information display terminal. Moreover, the present multilingual conversation assist system is capable of assisting a conversation easily between various combinations of the first and second languages by replacing a conversation assist package stored in a removable memory with new one.

Claims 1 to 8, 11 and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,622,123 to Chanod et al. in view of U.S. Patent Pub. 2002/0111791A1 to Candelore and U.S. Patent No. 5,576,953 to Hugentobler, newly cited. Although not specifically enumerated by the Examiner, it would appear that he intended to include claims 13 to 17 in this ground of rejection since he has separately treated each of these claims along with those which he specifically enumerated. This rejection is respectfully traversed for the reason that the combination of the patent to Chanod et al., the patent publication to Candelore and the patent to Hugentobler does not suggest or otherwise teach the claimed invention.

Chanod et al. disclose an interactive translation system which utilizes a collection of predefined core sentences in a source language that may be initially accessed through a thematic hierarchy or through a key word. New sentences may be recursively elaborated through transformations of a selected core sentence. The Chanod et al. system is intended to enable a user of the system to build a variety of useful sentences in a language that the user has no knowledge of. This system allows the user to build a number of sentences from a limited stock of source sentences. In this way, the user is able to generate phrases in a phrase book. The process, while useful in generating an expression in a target language, is not useful in assisting in real-time conversation between native speakers of first and second different languages.

The Examiner states that "Chanod does not teach each language unit is represented by a graphic image corresponding to the particular language unit." The Examiner relies on Candelore for a disclosure of "a multilingual conversational assistant that uses multimedia outputting means to output text, pictures and audio in response to translation (paragraphs 40–44)", but states that "Neither Chanod nor

Candelore teaches outputting a phonetic expression of said language unit in a second language." The Examiner relies on Hugentobler for a disclosure of "a portable electronic translation device that displays the phonetic information of a translation (Fig. 1 and col. 3, lines 59–64)."

Candelore discloses a device having a speaker to play instructions and phrases in a target language. The phrases query another person, or "helper", who speaks the target language and can include canned phrases that are pre-programmed on a CD-ROM and user programmed custom phrases stored in an EEPROM. The instructions request the helper to respond to the phrases not in his or her own (or target) language, by rather with head movements, hand gestures such as pointing, drawings, or any other non-verbal response or "universal" method that does not require the user of the device to understand the target language. The cited paragraphs 40–44 merely describe the hardware illustrated in Figures 1 and 2 that perform the functions just described. Various examples of the "canned" phrases are set out in paragraphs 79–272.

Hugentobler discloses a portable electronic translating device which can be used as a learning aid for language students, who store their newly learned material in the device and, by entering a previously stored word in one language, obtain the corresponding translation in another language, which they can then memorize. Figure 1 shows the device as having in input unit, or keyboard, 2, a multi-line display 3 and at least one memory unit. The input unit 2 has a memory key with which the user can store words, sentence fragments or sentences, and their translations, in at least one language. The cited paragraph at col. 3, lines 59–64, merely describes the display 3 as having two lines in which phonetic information can be entered and displayed on the second line. The user can enter and change this phonetic information as desired or keep these lines empty.

From the foregoing, it will be appreciated that the combination of the patent to Chanod et al., the patent publication to Candelore, and the patent to Hugentobler does not in fact suggest or otherwise teach the claimed invention. More specifically, claim 1 recites, "A *multilingual conversation assist system* for assisting a conversation *between* users of a plurality of languages" (emphasis added). None of these three references is related to such a system. Chanod et al. is

oriented to provide accurate translations of preselected sentences from one language to another. Candelore's approach of canned sentences with instructions for responding non-verbally does not provide such a system, and Hugentobler's device is aimed at assisting language students in memorizing phrases. The system of claim 1 comprises "a control means prompting a user to select a conversational situation" and "a database comprising a *single basic table, storing common conceptual information about at least two languages available for multilingual conversations, a plurality of tables, one table for each of said at least two languages storing language data for conversations in each language,* and *a plurality of subdatabases*, one subdatabase for each of said at least two languages storing data available to a conversation, *said single basic table being divided into a word identification number field, an image display file name field, and a conception field, a word identification number in said word identification number field being common among all of said at least two languages as long as a conception of a word is common, the word identification field serving to specify a primary key*, each of said subdatabases including an area for storing data for setting a conversational situation, a control section for storing a control program for said control means for reading the setting data of the conversation situation and displaying language units corresponding to the selected conversation situation, and an area for storing language units that are used for said at least two languages" (emphasis added). No such database and plurality of subdatabases are shown or suggested by the combination of references. Claim 1 recites that "each of said subdatabases including an area for storing data for setting a conversational situation, a control section for storing a control program for said control means for reading the setting data of the conversation situation and displaying language units corresponding to the selected conversation situation, and an area for storing language units that are used for said at least two languages". Again, there is nothing in the combination of references that would suggest such a structure for subdatatbases. Further, claim 1 recites that "wherein displaying of a language unit is made effective using multimedia so as each language unit may be represented by a graphic image corresponding to a particular language unit, a language unit presented <u>is</u> in a first language, a phonetic expression of said language unit in

second language, and voice output activation corresponding to the language unit presented in the second language." Clearly, claim 1 recites a system in certain and specific language that defines over the prior art. Claims 2 to 8 and 11 to 13, which are either directly or indirectly dependent on claim 1, are also patentable over the cited prior art.

Claim 14, like claim 1, recites "A *multilingual conversation assist system for assisting a conversation between* users of a plurality of languages" (emphasis added). This system comprises "control means for prompting a user to select a conversational situation", "a database storing common conceptual information about at least two languages available for multilingual conversations", and "display means for displaying language units corresponding to selected conversation situation". Claim 14, like claim 1, recites that the database includes "a single basic table storing a common conception of language to each of the languages, *said single basic table being divided into a word identification number field, an image display file name field, and a conception field, a word identification number in said word identification number field being common among all of said at least two languages as long as a conception of a word is common, the word identification field serving to specify a primary key,* a plurality of tables for storing language data for conversations in each language, and *a plurality of subdatabases for each pair of possible combination of languages available for multilingual conversation, each said subdatabase containing an area for storing data for setting a conversational situation, said area including a second-stage option table and a second-stage option query which includes a language unit connection field of the second-stage option table to indicate whether or not a next language is present*" and that "said control means accesses said database and controls said display means to display each language unit as a graphic image corresponding to a particular language unit, a language unit presented in a first language, a phonetic expression of said language unit is a second language, and voice output activation corresponding to the language unit in the second language." There is simply no suggestion or teaching of such a database or subdatabases in the combined teachings of the references. Claims 15, 16 and 17, which are either directly or indirectly dependent on claim 14, are

patentable over the prior art as well.

According to another aspect of the present invention, there is provided a multilingual conversation system having a server storing the above database. In this condition, there is provided a multilingual conversation system including a communication facility into which the database is downloaded by communicating with the server. The present multilingual conversation assist system is may be connected to a server through a network and, in this event, is capable of assisting a conversation easily between various combinations of the first and second languages by selecting a language selection menu. Figure 32 shows the information display terminal 10 is connected to a server 20 via a network 30 in this embodiment of the conversation assist system. The server 20 has a database 1 for storing data for displaying a language unit and has a conversation assist service control section 41 for selecting language unit data specified by an instruction from the information display terminal 10 out of the database and transmitting it to the information display terminal 10. The information display terminal 10 displays a communication control section 58 which receives the language unit data from the server 20 via the network 30 and the received language unit 260 on the information display section 51. The network can be the Internet, a mobile network, or a combination of the Internet and the mobile network. The information display terminal 10 can be a notebook-sized personal computer, a desktop personal computer, a PDA, a mobile telephone, a TV set, a game machine or the like. This embodiment is the subject of claims 9 and 10.

Claims 9 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over the patent to Chanod et al., the patent publication to Candelore, the patent to Hugentobler and Applicant's admitted prior art. The Examiner states that "Applicant's admitted prior art teaches that downloading databases from a server is notoriously well known in the art" but fails to cite what part of the specification he relies upon as "Applicant's admitted prior art". The rejection is respectfully traversed for the reason that the combination of the patent to Chanod et al., the patent publication to Candelore, the patent to Hugentobler, and whatever the Examiner refers to as "Applicant's admitted prior art" does not show, suggest or otherwise teach the claimed invention.

The patent to Chanod et al., the patent publication to Candelore and the patent to Hugentobler have been distinguished above. In short, this combination of references fails to even remotely hint at the database and subdatabases which distinguish the claimed invention. If there is no such teaching of such database and subdatabases, how then can it be obvious to download this very specific database and these very specific subdatabases? Quite simply, it cannot be obvious.

The Examiner states that "Chanod, Candelore and Hugentobler do not *specifically* teach all or part of said database is downloaded by means of communication with a server that stores the database" (emphasis added). The use of the adverb "specifically" by the Examiner is misleading in that his use of that word apparently is intended to suggest that there may be some implicit suggestion where, in fact, there is none.

Patent Publication 2002/0059056 A1 to Appleby has been reviewed but is not believed to be relevant to the claimed invention.
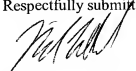
In conclusion, the Examiner has tried to cobble together multiple disparate references based on Applicants' own teaching in an effort to arrive at a conclusion of obviousness. Applicants' claims are quite specific and clearly define over the combination of references.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1 to 17 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

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